Applied Mathematical Sciences 2014 vol.8 N117-120, pages 5887-5898

Iterative method for solving the problem of scattering of an Electromagnetic wave by a partially shielded conducting sphere

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Abstract

© 2014 Dmitrii Tumakov. The problem of diffraction of an electromagnetic wave of parallel polarization by an perfectly conducting sphere sitting on top of a conducting surface is considered. The wave is supposed to fall onto the surface at a right angle. The original problem is solved by an iterative method involving consecutive solutions of the problems of diffraction by the sphere and by the conducting screen. The criteria for terminating the iterative process is a small amount of energy reflected off the sphere.

http://dx.doi.org/10.12988/ams.2014.48657

Keywords

Conducting sphere, Iterative method, Scattering of electromagnetic waves